

DCARML-010

- 2 -

IN THE CLAIMS

Please replace all claims in the instant application with the listing below amending claims 1, 7, 25, 29, and 31 as follows:

1 1. (Currently Amended) A lifting sling, said lifting sling comprising:
2
3 a plurality of core fibers forming a sling body, said sling body is load bearing; and
4
5 a coating, said coating is at least an isocyanate mixed with an amine forming
6 polyurea, said coating is sprayed onto said plurality of core fibers, said coating is
7 applied in patterns of varying thicknesses and locations along length of said sling
8 body, initial layer of said coating seals said plurality of core fibers from exposure
9 to contaminants, additional layers of said coating are applied in areas of said sling
10 body subject to high crush and shear forces increasing said coating thickness and
11 shear strength, preventing said plurality of core fibers and said coating damage
12 during use of said lifting sling, and achieving operational properties that extend
13 suitability for use of said coating and said plurality of core fibers, a final splatter
14 layer of said coating is applied along said sling body creating a rugged textured
15 non-slip grip exterior surface ~~[based in part on operating conditions of said lifting~~
16 ~~sling]~~.

17
1 2. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 coating is selected from the group consisting of a polyurea elastomer, or a hybrid
3 polyurethane – polyurea elastomer.
4

DCARML-010

- 3 -

1 3. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 coating has an operational temperature range of -40 to 175 degrees Celsius.

3

1 4. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 coating has a tensile strength in the range of up to 6,500 pounds per square inch, an
3 elongation range of up to 300 percent, and a tear resistance in the range of up to 600
4 pounds per linear inch.

5

1 5. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 coating includes at least one of the following additives:

3

- 4 i) a catalyst;
5 ii) a stabilizer;
6 iii) a pigment;
7 iv) a fire retardant;
8 v) a static electricity reducing additive;
9 vi) an ultraviolet filtering additive; or
10 vii) a thermal cycling additive.

11

1 6. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 plurality of core fibers include at least one of the following:

3

- 4 i) nylon;
5 ii) polyester;
6 iii) a synthetic fiber;
7 iv) polypropylene;
8 v) wire rope;

DCARML-010

- 4 -

- 9 vi) steel core;
10 vii) cordage rope;
11 viii) yarn;
12 ix) NOMAX;
13 x) KEVLAR; or
14 xi) chain.

15

1 7. (Currently Amended) The lifting sling in accordance with claim 1, wherein said lifting
2 sling further comprising a safety core, said safety core ~~[being]~~ is bonded by said coating
3 proximate to said plurality of core fibers causing said safety core, said coating, and said
4 plurality of core fibers to be subjected to the same operational forces during use of said
5 lifting sling.

6

1 8. (Previously Presented) The lifting sling in accordance with claim 7, wherein said safety
2 core traverses said lifting sling.

3

1 9. (Previously Presented) The lifting sling in accordance with claim 7, wherein said safety
2 core is located, with respect to said plurality of core fibers, in at least one of the following
3 locations:

4

- 5 i) seam located;
6 ii) perimeter located; or
7 iii) centrally located.

8

1 10. (Previously Presented) The lifting sling in accordance with claim 7, wherein said
2 safety core is interconnected with at least one of the following:

3

DCARML-010

- 5 -

- 4 i) an indicator; or
5 ii) an electronic system.
6

1 11-15. (Canceled)
2

1 16. (Previously Presented) The lifting sling in accordance with claim 1, wherein said
2 lifting sling further comprising at least one of the following:
3

- 4 i) an indicator secured proximate to said plurality of core fibers; or
5 ii) an electronic system secured proximate to said plurality of core fibers.
6

1 17. (Previously Presented) The lifting sling in accordance with claim 16, wherein said
2 electronic system further comprising at least one of the following:
3

- 4 i) a microcontroller;
5 ii) a graphical user interface;
6 iii) a keypad;
7 iv) a touch pad;
8 v) a plurality of general purpose inputs and outputs;
9 vi) a safety core interface;
10 vii) a lifting sling measurement and dynamics interface;
11 viii) an RFID interface;
12 ix) an IRDA interface;
13 x) a transceiver;
14 xi) a wireless data link;
15 xii) a LAN interface;
16 xiii) a WAN interface;

DCARML-010

- 6 -

- 17 xiv) a serial data link;
18 xv) a GPS interface;
19 xvi) a power supply;
20 xvii) a flash memory;
21 xviii) a read only memory;
22 xix) a real time clock;
23 xx) an EEROM; or
24 xxi) a NOVRAM.

25

1 18. (Previously Presented) The lifting sling in accordance with claim 16, wherein said
2 indicator or said electronic system indicates operational condition of said lifting sling,
3 suitability for use of said lifting sling, or security status of an article secured by said
4 lifting sling.

5

1 19-24 (Canceled)

2

1 25. (Currently Amended) A lifting sling, said lifting sling comprising:

2

3 a plurality of core fibers forming a sling body, said sling body is load bearing;

4

5 a coating, said coating is at least an isocyanate mixed with an amine forming
6 polyurea, said coating is disposed onto said plurality of core fibers, said coating is
7 applied in patterns of varying thicknesses and locations along length of said sling
8 body, initial layer of said coating seals said plurality of core fibers from exposure
9 to contaminants, additional layers of said coating are applied in areas of said sling
10 body subject to high crush and shear forces increasing said coating thickness and
11 shear strength, preventing said plurality of core fibers and said coating damage

DCARML-010

- 7 -

12 during use of said lifting sling, and achieving operational properties that extend
13 suitability for use of said coating and said plurality of core fibers, a final splatter
14 layer of said coating is applied along said sling body creating a rugged textured,
15 non-slip grip exterior surface, said coating thicknesses and locations along length
16 of said sling body are selected based in part on operating conditions of said lifting
17 sling; and

18
19 an electronic system secured by said coating proximate to said plurality of core
20 fibers, wherein by way of said electronic system said lifting sling data
21 communicates with a plurality of data processing devices or a plurality of global
22 network based data processing resources.

23

1 26. (Previously Presented) The lifting sling in accordance with claim 25, further
2 comprising a cover, said cover being fitted around said plurality of core fibers, said cover
3 is coated with said coating.

4

1 27. (Previously Presented) The lifting sling in accordance with claim 25, further
2 comprising a cover, said cover being fitted around said plurality of core fibers, said cover
3 is coated and secured into position with said coating.

4

1 28. (Canceled)

2

1 29. (Currently Amended) A lifting sling, said lifting sling comprising:

2

3 a plurality of core fibers forming a sling body, said sling body is load bearing; and

4

DCARML-010

- 8 -

5 a coating, said coating material is at least an isocyanate mixed with an amine
6 forming polyurea, said coating is disposed onto said plurality of core fibers, said
7 coating is applied in patterns of varying thicknesses and locations along length of
8 said sling body, initial layer of said coating seals said plurality of core fibers from
9 exposure to contaminants, additional layers of said coating are applied in areas of
10 said sling body subject to high crush and shear forces increasing said coating
11 thickness and shear strength, preventing said plurality of core fibers and said
12 coating damage during use of said lifting sling, and achieving operational
13 properties that extend suitability for use of said coating and said plurality of core
14 fibers, a final splatter layer of said coating is applied along said sling body
15 creating a rugged textured non-slip grip exterior surface, said coating thicknesses
16 and locations along length of said sling body are selected based in part on
17 operating conditions of said lifting sling;

18
19 said lifting sling further comprising at least one of the following:

- 20
21 i) an indicator secured by said coating proximate to said plurality of
22 core fibers; or
23 ii) an electronic system secured by said coating proximate to said
24 plurality of core fibers;

25
26 wherein said indicator or said electronic system indicates operational condition of
27 said lifting sling, suitability for use of said lifting sling, or security status of an
28 article secured by said lifting sling.

29
1 30. (Canceled)
2

DCARML-010

- 9 -

1 31. (Currently Amended) The lifting sling in accordance with claim 29, wherein said
2 lifting sling further comprising a safety core, said safety core ~~[being]~~ is bonded by said
3 coating proximate to said plurality of core fibers causing said safety core, said coating,
4 and said plurality of core fibers to be subjected to the same operational forces during use
5 of said lifting sling.

6
1 32. (Canceled)

2
1 33. (Previously Presented) The lifting sling in accordance with claim 1, further
2 comprising a cover, said cover being fitted around said plurality of core fibers, said cover
3 is coated with said coating.

4
1 34. (Previously Presented) The lifting sling in accordance with claim 1, wherein single-
2 core said sling body is formed by full seaming said plurality of core fibers with said
3 coating and multi-core said sling body is formed by partial seaming said plurality of core
4 fibers with said coating.

5
1 35. (Previously Presented) The lifting sling in accordance with claim 25, wherein single-
2 core said sling body is formed by full seaming said plurality of core fibers with said
3 coating and multi-core said sling body is formed by partial seaming said plurality of core
4 fibers with said coating.

5
1 36. (Previously Presented) The lifting sling in accordance with claim 29, wherein single-
2 core said sling body is formed by full seaming said plurality of core fibers with said
3 coating and multi-core said sling body is formed by partial seaming said plurality of core
4 fibers with said coating.

5

DCARML-010

- 10 -

1 37. (Previously Presented) The lifting sling in accordance with claim 1, further
2 comprising a cover, said cover being fitted around said plurality of core fibers, said cover
3 is coated and secured into position with said coating.
4

1 38. (Previously Presented) The lifting sling in accordance with claim 29, further
2 comprising a cover, said cover being fitted around said plurality of core fibers, said cover
3 is coated with said coating.
4